LARSEN ET AL. -- 09/890,567
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IN THE CLAIMS:

This listing of claims will replace all prior versions, and listings, of claims in the application:

1. – 33. (Cancelled).

34. (New) A method for cancer diagnosis or prognosis which comprises:

(a) treating a sample from a human or animal subject with a solid phase under conditions to bind telomerase to the solid phase;

(b) separating the solid phase from the treated sample to form a test sample which is optionally treated to elute bound telomerase from the solid phase; and

(c) assaying the test sample for telomerase activity, wherein detection of telomerase activity in the sample is indicative of cancer in the subject.

35. (New) A method according to claim 34, wherein the sample comprises target whole cells, which are treated in step (a) to form a lysate to release telomerase for binding to the solid phase.

36. (New) A method according to claim 34, wherein the solid phase comprises a particulate material.

37. (New) A method according to claim 36, wherein the particulate material comprises polymeric beads.

38. (New) A method according to claim 37, wherein the polymeric beads have a diameter in the range of from 1μ to 6 μm.

39. (New) A method according to claim 36, wherein the particulate material is magnetic.

40. (New) A method according to claim 34, wherein the step (c) of assaying for telomerase activity uses a telomeric repeat assay protocol.

41. (New) A method for cancer diagnosis or prognosis which comprises:

(a) treating a sample from a human or animal subject with a solid phase under conditions to bind telomerase to the solid phase;

(b) separating the solid phase from the treated sample; and

(c) assaying the solid phase for telomerase activity, wherein detection of telomerase activity in the sample is indicative of cancer in the subject.

42. (New) A method for cancer diagnosis or prognosis which comprises:

(a) sorting a sample comprising a mixture of cell populations from a human or animal subject to isolate target whole cells in the sample;

(b) treating the isolated target whole cells to form a lysate to release telomerase for binding to a solid phase;

(c) treating the lysate with the solid phase under conditions to bind telomerase to the solid phase;

(d) separating the solid phase from the treated lysate to form a test sample which is optionally treated to elute bound telomerase from the solid phase; and

(e) assaying the test sample for telomerase activity, wherein detection of telomerase activity in the sample is indicative of cancer in the subject.

43. (New) A method according to claim 42, wherein the mixture of cell populations is selected from the group consisting of blood, bone marrow, a pleural effusion, urine, saliva, sputum, feces, spinal fluid, a cervical smear, a buccal swab, or a needle biopsy sample.

44. (New) A method according to claim 10, wherein detection of telomerase activity in the sample is further indicative of micrometastasis in the subject.

45. (New) A method for cancer diagnosis or prognosis which comprises:

(a) sorting a sample to isolate target whole cells in the sample, wherein the sorting comprises flow cytometry sorting or a step of binding the target whole cells to a solid phase affinant for the target whole cells, and the sample comprises a mixture of cell populations from a human or animal subject;

(b) treating the isolated target whole cells to form a lysate to release telomerase for binding to a solid phase;

(c) treating the lysate with a solid phase under conditions to bind telomerase to the solid phase;

(d) separating the solid phase from the treated lysate to form a test sample which is optionally treated to elute bound telomerase from the solid phase; and

(e) assaying the test sample for telomerase activity, wherein detection of telomerase activity in the sample is indicative of cancer in the subject.

46. (New) A method according to claim 45, wherein the affinant comprises an antibody specific to the target cells.

47. (New) A method according to claim 45, wherein the affinant is specific for epithelial cells.

48. (New) A method for cancer diagnosis or prognosis which comprises:

(a) isolating target whole cells in the sample by binding the target whole cells to a solid phase affinant for the target whole cells, wherein the sample comprises a mixture of cell populations from a human or animal subject;

(b) treating the isolated target whole cells to form a lysate to release telomerase for binding to a solid phase on which the solid phase affinant is present;

(c) treating the lysate with the solid phase on which the solid phase affinant is present, under conditions to bind telomerase to the solid phase;

(d) separating the solid phase from the treated lysate to form a test sample which is optionally treated to elute bound telomerase from the solid phase; and

(e) assaying the test sample for telomerase activity, wherein detection of telomerase activity in the sample is indicative of cancer in the subject.

49. (New) A method according to claim 48, wherein the affinant comprises an antibody specific to the target cells.

50. (New) A method according to claim 48, wherein the affinant is specific for epithelial cells.

51. (New) A kit for detecting telomerase activity, comprising a solid phase for binding telomerase and one or more components for assaying for telomerase activity, wherein the solid phase comprises an affinant for binding target whole cells.

52. (New) A kit according to claim 51, wherein the affinant comprises an antibody specific to the target cells.

53. (New) A kit according to claim 51, wherein the affinant is specific for epithelial cells.

54. (New) A kit according to claim 51, wherein the one or more components for assaying telomerase activity comprise a substrate for telomerase elongation.

55. (New) A kit according to claim 54, wherein the substrate for telomerase elongation is present on the solid phase for binding telomerase.

56. (New) A kit according to claim 51, wherein the one or more components for assaying telomerase activity comprise components for a telomeric repeat assay protocol.

57. (New) A kit according to claim 51, wherein the one or more components for assaying telomerase activity include oligonucleotide primers to amplify the telomerase product.

58. (New) A kit for detecting telomerase activity, comprising a solid phase for binding telomerase and one or more components for assaying for telomerase activity, which further comprises a second solid phase for binding target whole cells.

59. (New) A kit according to claim 58, wherein the second solid phase comprises an affinant for binding target whole cells.

60. (New) A kit for detecting telomerase activity, comprising a solid phase for binding telomerase, one or more components for assaying for telomerase activity, and instructions to the user of the kit to use the solid phase to bind telomerase.

61. (New) A method for detecting telomerase activity, comprising providing a kit comprising a solid phase for binding telomerase and one or more components for detecting telomerase activity, using the solid phase to bind telomerase, and assaying for telomerase activity.

62. (New) A method according to claim 61, wherein the solid phase comprises a particulate material.

63. (New) A method according to claim 62, wherein the particulate material comprises polymeric beads.

64. (New) A method according to claim 63, wherein the polymeric beads have a diameter in the range of from 1 μm to 6 μm.

65. (New) A method according to claim 61, wherein the particulate material is magnetic.